Recurrent Pregnancy Loss: Who Is to Blame?

For those of us who deal with male infertility, one of the most frustrating aspects of this subspecialty is the question of what to do with couples experiencing recurrent pregnancy loss (RPL). Rarely is it assumed that the issue is with the male partner, and there is no scientific evidence to link problematic sperm to this process. However, this thinking might be undergoing a change. An intriguing article was recently published that showed some preliminary evidence that a microdeletion in the structure of the Y-chromosome might be involved with RPL.

Y-Chromosome Microdeletions and Recurrent Pregnancy Loss

Dewan S, Puscheck EE, Coulam CB, et al.

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Dewan and colleagues tested the DNA from buccal swabs of male partners in couples with RPL and found that 82% of them had at least one microdeletion in the Y-chromosome. This finding is extremely high compared with a random group of men presenting with male infertility due to oligospermia and/or azoospermia.[1] Y-microdeletions are exactly what they sound like: deletions of certain parts of the Y-chromosome in an area of the long arm believed to be involved in spermatogenesis. This area of the chromosome is called the azoospermia factor (AZF) area, and 3 subregions of the AZF area have been identified, termed AZFa, AZFb, and AZFc. Previous data have shown that patients who have AZFa and/or AZFb deletions do not have sperm at all. Only patients with AZFc lesions alone (excluding those who might also have an AZFa and/or AZFb with an AZFc deletion) have any chance of spermatogenesis.[2] What was most intriguing in the Dewan study was that the men who had microdeletions primarily had an AZFc microdeletion.

With couples experiencing recurrent pregnancy loss, rarely is it assumed that the issue is with the male partner.

There are still some questions to be answered by the authors. For example, did their RPL men all have oligospermia, as most AZFc patients are found to have, or were these couples all undergoing in vitro fertilization (IVF) and did some process within the IVF procedure lead to the RPL? Nevertheless, the results suggest that RPL might be a "couple disease" rather than simply a "female issue." Obviously, more information will be needed before it can be recommended that all men involved in miscarriages undergo a Y-deletion test. ■

References

1. Le Bourhis C, Siffroi JP, McElreavey K, Dadoune JP. Y chromosome microdeletions and germinal mosaicism in infertile males. *Mol Hum Reprod*. 2000; 6:688-693.
2. Choi JM, Chung P, Veeck L, et al. AZF microdeletions of the Y chromosome and in vitro fertilization outcome. *Fert Steril*. 2004;81:337-341.